



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,733	07/14/2003	Takatsugu Doi	053588-5013	3599

9629 7590 11/01/2004

MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/617,733	Applicant(s) DOI, TAKATSUGU	
	Examiner Manish S. Shah	Art Unit 2853	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-17 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                               |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/14/03</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5 & 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (# US 6153001).

Suzuki et al. discloses an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent having a triethylene glycol has a general formula  $\text{HO}(\text{C}_2\text{H}_4\text{O})_3\text{H}$ , has a solubility parameter (SP1) is 14 (column: 31, line: 35-40), and  $W1=5$  parts by weight; a second water-soluble solvent is a glycerol, has a solubility parameter is 20 (column: 32, line: 29-30), and  $W2=5$  parts by weight; and a third water-soluble solvent is a 2-propanol (isopropyl alcohol), has a solubility parameter is 12 (column: 32, line: 60-62), and  $W3=3$  parts by weight (column: 20, line: 1-20); which satisfy the equation  $W2/W1=5/5=1$ , and  $W3/W1=3/5=0.6$  (see Example: I-5). They also disclose that the ink including a pigment, which is self-dispersible in water (column: 7, line: 5-10), a cationic or anionic polymer (column: 7, line: 35-40), and the pigment is dispersed by the polymeric dispersant (column: 7, line: 7-10). They also disclose that a surface tension of the inkjet ink is from 20 to 60 mN/m (column: 13, line: 34-36), a viscosity of the inkjet ink is from 1.5 to 5.0 mPa.s (column: 14, line: 7-11).

2. Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (# US 6153001).

Suzuki et al. discloses an inkjet recording method in which a liquid composition containing a multivalent metal salt (column: 16, line: 25-30), an organic cationic or anionic substance (column: 16, line: 4-22) is imparted to a surface of a recording medium and thereafter printing is conducted on a region of the surface of the recording medium to which the liquid composition has been imparted (column: 16, line: 1-7), an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent having a triethylene glycol has a general formula  $\text{HO}(\text{C}_2\text{H}_4\text{O})_3\text{H}$ , has a solubility parameter (SP1) is 14 (column: 31, line: 35-40), and  $W1 = 5$  parts by weight; a second water-soluble solvent is a glycerol, has a solubility parameter is 20 (column: 32, line: 29-30), and  $W2 = 5$  parts by weight; and a third water-soluble solvent is a 2-propanol (isopropyl alcohol), has a solubility parameter is 12 (column: 32, line: 60-62), and  $W3 = 3$  parts by weight (column: 20, line: 1-20); which satisfy the equation  $W2/W1 = 5/5 = 1$ , and  $W3/W1 = 3/5 = 0.6$  (see Example: I-5). They also disclose that a number of particles having particle diameters of 5 micrometer or larger contained in the inkjet ink which is added drop wise to a surface of the recording medium is  $1 \times 10^3/\mu\text{l}$  or more (see Table: 4).

3. Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (# US 6153001).

Suzuki et al. discloses an inkjet recording method of printing on a recording medium by thermal inkjet system or piezo-inkjet system (column: 15, line: 45-60) using an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent having a triethylene glycol has a general formula  $\text{HO}(\text{C}_2\text{H}_4\text{O})_3\text{H}$ , has a solubility parameter (SP1) is 14 (column: 31, line: 35-40), and  $W1 = 5$  parts by weight; a second water-soluble solvent is a glycerol, has a solubility parameter is 20 (column: 32, line: 29-30), and  $W2 = 5$  parts by weight; and a third water-soluble solvent is a 2-propanol (isopropyl alcohol), has a solubility parameter is 12 (column: 32, line: 60-62), and  $W3 = 3$  parts by weight (column: 20, line: 1-20); which satisfy the equation  $W2/W1 = 5/5 = 1$ , and  $W3/W1 = 3/5 = 0.6$  (see Example: I-5). They also disclose that the amount of the ink to be imparted to a surface of the recording medium is 25 ng or less per one drop (see Table: 4, Ex II-9, II-13).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (# US 6153001) in view of Akutsu et al. (# US 4740420).

Suzuki et al. discloses an inkjet recording method of printing on a recording medium using an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent having a triethylene glycol has a general formula  $\text{HO}(\text{C}_2\text{H}_4\text{O})_3\text{H}$ , has a solubility parameter (SP1) is 14 (column: 31, line: 35-40), and  $W1 = 5$  parts by weight; a second water-soluble solvent is a glycerol, has a solubility parameter is 20 (column: 32, line: 29-30), and  $W2 = 5$  parts by weight; and a third water-soluble solvent is a 2-propanol (isopropyl alcohol), has a solubility parameter is 12 (column: 32, line: 60-62), and  $W3 = 3$  parts by weight (column: 20, line: 1-20); which satisfy the equation  $W2/W1 = 5/5 = 1$ , and  $W3/W1 = 3/5 = 0.6$  (see Example: I-5). They also disclose that a number of particles having particle diameters of 5 micrometer or larger contained in the inkjet ink which is added drop wise to a surface of the recording medium is  $1 \times 10^2/\mu\text{l}$  or more (see Table: 4).

Suzuki et al. differs from the claim of the present invention in that the recording medium including a multivalent metal salt, and an organic cationic or anionic substance.

Akutsu et al. teaches that to get the water resistance and light resistance printed image, inkjet recording medium including the multivalent metal salt and the organic cationic or anionic substance (column: 1, line: 50-68; column: 2, line: 1-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording medium in the inkjet recording method of Suzuki et al.

by the aforementioned teaching of Akutsu et al. in order to have a light resistance and a water resistance printed image.

### ***Allowable Subject Matter***

5. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: An absolute value of a  $\xi$  potential of the inkjet ink in the range of 3 mV to 60 mV.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) Ichizawa et al. (# US 6368397) discloses an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent, wherein first water soluble solvent is diethylene glycol has a solubility parameter (SP1) is 15 (see Table: 3), and W1= 10 parts by weight; a second water-soluble solvent is tiodiethanol and has a solubility parameter is 15.2, and W2= 5 parts by weight (see Table: 3); and a third water-soluble solvent is 2-propanol (isopropyl

Art Unit: 2853

alcohol) and has a solubility parameter is 11.6, and  $W3= 3$  parts by weight (see Table: 3); which satisfy the equation  $W3/W1= 3/10= 0.3$ . They also disclose that the ink including pigment, which is self-dispersible in water (column: 7, line: 15-30), cationic or anionic polymer (column: 8, line: 1-60), and the pigment is dispersed by the polymeric dispersant. They also disclose that a surface tension of the inkjet ink is from 35 to 55 mN/m (column: 13, line: 1-5), a viscosity of the inkjet ink is from 1 to 8.0 mPa.s (column: 13, line: 5-10).

(2) Kashiwazaki et al. (# US 5439514) discloses an inkjet ink including at least a pigment, a water-soluble solvent and water, wherein the water-soluble solvent including a first water-soluble solvent, wherein first water soluble solvent is diethylene glycol has a  $W1= 15$  parts by weight; a second water-soluble solvent is glycerol has a  $W2= 2$  parts by weight; and a third water-soluble solvent is 2-propanol (isopropyl alcohol) has a  $W3= 3$  parts by weight (column: 9, line: 40-60).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah  
Examiner  
Art Unit 2853



MSS

10/27/04